

GE 159 Plastics Avenue Pittsfield, MA 01201 USA

September 19, 2007

Mr. Richard Fisher U.S. Environmental Protection Agency EPA New England One Congress Street, Suite 1100 Boston, Massachusetts 02114-2023

Re: GE-Pittsfield/Housatonic River Site

Groundwater Management Area 5 (GECD350) Addendum to Baseline Assessment Final Report and Long-Term Monitoring Program Proposal

Dear Mr. Fisher:

On April 26, 2007, the General Electric Company (GE) submitted to the United States Environmental Protection Agency (EPA) a document titled *Baseline Assessment Final Report and Long-Term Monitoring Program Proposal for Groundwater Management Area 5* (GMA 5 Long-Term Monitoring Proposal). The GMA 5 Long-Term Monitoring Proposal summarized the results of the Baseline Assessment performed by GE between spring 2002 and fall 2006 at GMA 5, and also contained a proposal for long-term groundwater quality monitoring activities, as specified in Section 6.3.2 of Attachment H to the Consent Decree (CD) executed in 1999 by GE, the EPA, the Massachusetts Department of Environmental Protection (MDEP), and several other governmental agencies.

GE received conditional approval of the GMA 5 Long-Term Monitoring Proposal from EPA in a letter dated August 21, 2007. This Addendum to the Baseline Assessment Final Report and Long-Term Monitoring Program Proposal for Groundwater Management Area 5 (Addendum to GMA 5 Long-Term Monitoring Proposal) has been prepared to address the requirements contained in EPA's August 21, 2007 letter, which contained the following conditions:

- Condition 1 required GE to collect an additional set of baseline groundwater samples from well GMA5-5 in fall 2007 to compensate for the omission of this well from the fall 2006 sampling event and to re-evaluate the possible inclusion of this well in the long-term monitoring program.
- Condition 2 required GE to include monitoring wells GT-7 and GT-101 in the semi-annual groundwater elevation and NAPL activities described in Section 6.2.2 of the GMA 5 Long-Term Monitoring Proposal.
- Condition 3 directed GE to evaluate the potential source of tetrachloroethene (PCE) detected in well GMA5-7 and to submit a proposal to establish the source of PCE found within GMA 5, including a description of how the data evaluation and any additional activities are to be included in the long-term groundwater quality monitoring program at GMA 5.

• Condition 4 directed GE to provide a table describing the proposed disposition of each well that has been used in the GMA 5 groundwater monitoring and NAPL monitoring programs at any point (e.g., is the well proposed to be abandoned, left in place, decommissioned, or continued in use).

The remainder of this letter summarizes GE's responses to these conditions, including the proposed modifications to the Long-Term Groundwater Monitoring Program at GMA 5.

# Additional Baseline Sampling at Well GMA5-5

Following submittal of the GMA 5 Long-Term Monitoring Proposal, a review of the fall 2006 sampling records revealed that EPA monitoring well BH00041 was inadvertently sampled instead of well GMA5-5 during that final baseline sampling event. As such, the data attributed from well GMA5-5 on November 16, 2006 was actually collected from the nearby EPA well. In accordance with Condition 1 of EPA's conditional approval letter, GE will collect an additional set of baseline groundwater samples from well GMA5-5 in fall 2007 to compensate for the omission of this well from the fall 2006 sampling event. The groundwater samples will be analyzed for the full suite of analyses specified in the baseline monitoring program for this well (i.e. volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PCBs (filtered and unfiltered samples), pesticides/herbicides, polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDDs/PCDFs), metals and total cyanide (filtered and unfiltered samples), physiologically available cyanide (filtered samples only), and sulfide. The results of that sampling will be included in the Monitoring Event Evaluation Report for Fall 2007, along with a revised evaluation of the baseline analytical data from this well and a proposal on whether to include this location in the long-term monitoring program.

# NAPL and Groundwater Elevation Monitoring at Wells GT-7 and GT-101

In accordance with Condition 2 of EPA's conditional approval letter, GE has incorporated monitoring wells GT-7 and GT-101 into its proposed semi-annual groundwater elevation and NAPL monitoring network. The entire list of wells subject to groundwater elevation and NAPL monitoring is included in the attached Table 1.

#### Evaluation of Tetrachloroethene at Well GMA5-7

As noted in the GMA 5 Long-Term Monitoring Proposal, an apparent increase in VOC concentrations over time was observed at well GMA5-7, based primarily on an increase in PCE concentrations during the monitoring period (although a decrease in concentrations of PCE, and consequently, total VOCs, was recorded in the most recent monitoring event conducted in fall 2006). Well GMA5-7 is located in close proximity to an operating laundromat and is also downgradient of a dry cleaning facility located on Elm Street. PCE had also previously been detected in nearby well GMA5-3 during the initial two baseline sampling events performed in 2002, but has not been detected during five subsequent sampling rounds conducted at that location. Historical soil and groundwater analytical results for PCE in this area are summarized in Tables 2 and 3, respectively. The sample locations listed in those tables are illustrated on

Figure 2, which shows that the detections of PCE in soil are limited to the immediate vicinity of the dry cleaning facility located upgradient of well GMA5-7.

As such, and given the general absence of PCE elsewhere in the GMA, GE believes it is highly unlikely that any PCE found in this well is related to former GE operations at the Site. Nonetheless, in Section 6.2.1 of the GMA 5 Long-Term Monitoring Proposal, GE proposed to sample this well during the long-term monitoring program to confirm that the GW-2 Performance Standard for PCE has been attained. In addition, in accordance with Condition 3 of EPA's conditional approval letter, GE proposes to install two new monitoring wells (identified as GMA5-9 and GMA5-10), at the locations shown on Figure 2, to establish the source of the PCE detections in well GMA5-7.

As shown on Figure 2, the proposed monitoring wells are to be installed between the historical detections of PCE in soil samples at and adjacent to the Former Oxbow Area A RAA (which are all located near the off-site dry cleaning facility) and existing well GMA5-7. Groundwater generally flows from the vicinity of the dry cleaning facility northward toward the Housatonic River, such that constituents in groundwater associated with the PCE-impacted soils near the dry cleaning facility could potentially migrate to well GMA5-7. Proposed wells GMA5-9 and GMA5-10 will provide groundwater quality data at two locations downgradient of the dry cleaning facility and upgradient of well GMA5-7 and the laundromat, thus providing the required evaluation of the potential source of PCE found in GMA 5.

Following the installation of the proposed monitoring wells, supplemental groundwater samples from the new wells will be collected and analyzed for VOCs during the fall 2007 long-term sampling event (as presented in Table 4). Based upon the results of that supplemental sampling, GE will evaluate whether it would be appropriate to include well GMA5-9 and/or GMA5-10 in the long-term groundwater quality monitoring program. Whether or not groundwater quality sampling continues in these wells; however, GE proposes to collect groundwater elevation data from wells GMA5-9 and GMA5-10 during the semi-annual monitoring events performed at GMA 5 during the long-term monitoring program to provide additional monitoring points to further delineate groundwater flow patterns in this area.

The analytical results of the sampling at wells GMA5-9 and GMA5-10 will be included in the Monitoring Event Evaluation Report for Fall 2007, along with an evaluation of the results.

## **GMA 5 Monitoring Well Status**

In accordance with Condition 4 of EPA's conditional approval letter, GE has developed the attached Table 1, which identifies each of the wells that have been used in the GMA 5 baseline or interim groundwater monitoring and NAPL monitoring programs. Provided in this table are designations of each well under the GMA 5 monitoring program, listings of prior groundwater quality sampling and/or groundwater elevation monitoring events conducted at each well, the proposed groundwater quality sampling and groundwater elevation monitoring schedule for each well, and the proposed disposition of each well (i.e., well is proposed to be decommissioned, left in place, or continued in use). At this time, GE does not propose to decommission any of the existing monitoring wells at GMA 5 but may include proposals to remove certain wells that are no longer included in the GMA 5 long-term monitoring program in future monitoring event evaluation reports.

#### Schedule

Upon approval by the EPA of this Addendum, GE will immediately begin implementation of the long-term groundwater quality monitoring program at GMA 5, starting with the installation and development of new wells GMA5-9 and GMA5-10 as soon as property access and drilling arrangements can be made.

The fall 2007 groundwater sampling event is currently scheduled to be conducted in October 2007 but may be conducted in November 2007 if additional time is required for wells GMA5-9 and GMA5-10 to equilibrate after development. If installation of the new wells cannot be completed in October 2007 for any reason, GE will inform EPA and discuss whether or not the remaining monitoring wells should be sampled prior to installation of the new wells.

The sampling activities proposed for fall 2007 are summarized in the attached Table 4. A round of groundwater elevation monitoring at the GMA 5 wells listed in Table 1 will also be conducted in conjunction with the groundwater sampling event. Prior to performance of these field activities, GE will provide EPA with 7 days advance notice to allow the assignment of oversight personnel.

GE will submit the Fall 2007 Monitoring Event Evaluation Report for GMA 5 within 60 days following receipt of the final analytical data packages from the event. That report will present the final, validated fall 2007 sampling results and a brief discussion of the results, including the evaluations of the data discussed in Section 6.6.1 of the GMA 5 Long-Term Monitoring Proposal (plus evaluations of the supplemental results from wells GMA5-5, GMA5-9, and GMA5-10) and any proposals to further modify the long-term monitoring program, if necessary.

GE will also continue to provide the results of preliminary groundwater analytical data in its monthly reports on overall activities at the GE-Pittsfield/Housatonic River Site. Those reports will also document the schedule for submittal of the Fall 2007 Monitoring Event Evaluation Report, which is contingent upon receipt of the final analytical data packages from the groundwater sampling event, as discussed above.

Please contact me if you have any questions or comments.

Sincerely,

Richard W. Gates

Remediation Project Manager

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Attachments

Dean Tagliaferro, EPA cc: Rose Howell, EPA\* Tim Conway, EPA\* Holly Inglis, EPA\* K.C. Mitkevicius, USACE Linda Palmieri, Weston Anna Symington, MDEP\* Jane Rothchild, MDEP\* Susan Steenstrup, MDEP Thomas Angus, MDEP\* Mayor James Ruberto, City of Pittsfield Pittsfield Commissioner of Public Health Thomas Hickey, Director, PEDA Jeffery Bernstein, BCK Law Teresa Bowers, Gradient Nancy E. Harper, MA AG Dale Young, MA EOEA Michael Carroll, GE\* Andrew Silfer, GE\* Rod McLaren, GE\* James Nuss, ARCADIS BBL James Bieke, Goodwin Procter John Ciampa, SPECTRA Property Owner - Parcel I8-23-6/I9-5-1 Property Owner - Parcel I8-23-9 Property Owner - Parcel I8-23-10 Public Information Repositories **GE** Internal Repositories

<sup>\*</sup> cover letter

Table 1
Groundwater Monitoring Program Summary

# Addendum to Baseline Assessment Final Report and Long Term Monitoring Program Proposal Groundwater Management Area 5

General Electric Company - Pittsfield, Massachusetts

Well Number	Monitoring Well Classification	Current Well Status	Prior Monitoring Well Usage	Proposed Groundwater Quality Sampling	Proposed Groundwater Elevation Monitoring	Well Proposed To Be Decommissioned
A-1	Groundwater Elevation	Decommissioned	Groundwater Elevation Monitoring	None		Decommisioned
BH000141	None - EPA Installed	Existing	Groundwater Sampling	None	None	No
C-1	Groundwater Elevation	Decommissioned	Groundwater Elevation None			Decommisioned
C-2	Groundwater Elevation	Decommissioned	Groundwater Elevation Monitoring	None		Decommisioned
GMA5-1	GW-2 Sentinel/ GW-3 Perimeter	Existing	Groundwater Elevation Monitoring/Sampling	None	Semi-Annual	No
GMA5-2	GW-3 Perimeter	Existing	Groundwater Elevation Monitoring/Sampling	None	None	No
GMA5-3	GW-2 Sentinel/ GW-3 Perimeter	Existing	Groundwater Elevation Monitoring/Sampling	Groundwater Elevation None		No
GMA5-4	GW-3 Perimeter	Existing	Groundwater Elevation Monitoring/Sampling Semi-Annual		Semi-Annual	No
GMA5-5	GW-3 Perimeter	Existing	Groundwater Elevation Monitoring/Sampling Fall 2007 Only		Fall 2007 Only	No
GMA5-6	GW-3 Perimeter	Existing	Groundwater Elevation Monitoring/Sampling	None	None	No
GMA5-7	GW-2 Sentinel/ GW-3 Perimeter	Existing	Groundwater Elevation Monitoring/Sampling	Semi-Annual	Semi-Annual	No
GMA5-8	GW-3 General/Source Area Sentinel	Existing	Groundwater Elevation Monitoring/Sampling None		Semi-Annual	No
GMA5-9	GW-2 Sentinel	Proposed	None Fall 2007 Onl		Semi-Annual	No
GMA5-10	GW-2 Sentinel	Proposed	None	Fall 2007 Only	Semi-Annual	No
GES-7	Groundwater Elevation - Elm Street Mobil	Existing	Groundwater Elevation Monitoring	None	None	No
GES-8	Groundwater Elevation - Elm Street Mobil	Existing	Groundwater Elevation Monitoring	Semi-Annual	None	No
GES-9	Groundwater Elevation - Elm Street Mobil	Existing	Groundwater Elevation Monitoring	None	None	No
GT-7	Groundwater Elevation - Elm Street Mobil	Existing	Groundwater Elevation Monitoring	None	Semi-Annual	No
GT-101	Groundwater Elevation - Elm Street Mobil	Existing	Groundwater Elevation Monitoring	None	Semi-Annual	No
GT-102	Groundwater Elevation - Elm Street Mobil	Existing	Groundwater Elevation Monitoring	None	None	No

Table 2
Historical Tetrachloroethene (PCE) Concentrations in Soil Samples

Addendum To Baseline Assessment Final Report And Long Term Monitoring Program Proposal Groundwater Management Area 5

**General Electric Company - Pittsfield, Massachusetts** 

(Results are presented in dry weight parts per million, ppm)

Sample ID	Sample Depth (Feet)	Date Collected	PCE Concentration	
BH000988 <sup>2</sup>	3-6	05/08/03	0.0038 J	
BH000989 <sup>2</sup>	10-15	05/08/03	0.011	
BH000990 <sup>2</sup>	6-10	05/08/03	0.0077 [0.0087]	
RAA11-P8	0-1	05/06/03	ND(0.0054)	
RAA11-P12	0-1	04/24/03	ND(0.0055)	
RAA11-Q7	0-1	04/28/03	ND(0.0054)	
RAA11-Q9	0-1	04/28/03	ND(0.0052)	
RAA11-Q10	0-1	04/29/03	ND(0.0054)	
	1-3	04/29/03	ND(0.0054)	
	4-6	04/29/03	ND(0.0055)	
	8-10	04/29/03	ND(0.0054)	
RAA11-Q11	0-1	04/04/03	ND(0.0055)	
RAA11-Q13	0-1	04/23/03	ND(0.0056)	
RAA11-R6	0-1	05/07/03	ND(0.0053)	
RAA11-R8	0-1	04/29/03	ND(0.0052)	
	1-3	04/29/03	ND(0.0057)	
	4-6	04/29/03	ND(0.0055)	
	10-12	04/29/03	ND(0.0056)	
RAA11-S3	0-1	04/29/03	ND(0.0053)	
	1-3	04/29/03	ND(0.0054)	
	4-6	04/29/03	ND(0.0058)	
RAA11-S5	0-1	04/28/03	ND(0.0053)	
RAA11-S7	0-1	04/29/03	ND(0.0056)	
RAA11-S9	0-1	04/29/03	ND(0.0054)	
RAA11-S11	0-1	05/01/03	ND(0.0053)	
	1-3	05/01/03	ND(0.0054)	
	4-6	05/01/03	ND(0.0056)	
	10-12	05/01/03	ND(0.0057)	
RAA11-S13	0-1	04/23/03	ND(0.0056)	
RAA11-T2	0-1	05/06/03	ND(0.0053)	
RAA11-T4	0-1	04/30/03	ND(0.0054)	
	8-10	04/30/03	ND(0.0053)	
RAA11-T6	0-1	04/30/03	ND(0.0052)	
	1-3	04/30/03	ND(0.0053)	
	3-4	04/30/03	ND(0.0055)	
	10-12	04/30/03	ND(0.0052)	
RAA11-T10	0-1	05/06/03	ND(0.0054)	
RAA11-T12	0-1	05/01/03	ND(0.0056) [ND(0.0056)]	
	1-3	05/01/03	ND(0.0062)	
	5-5.5	05/01/03 05/01/03	ND(0.0058)	
<b>544</b>	6-8		ND(0.0056)	
RAA11-U3	0-1	04/29/03	ND(0.0053)	
RAA11-U5	0-1	04/29/03	ND(0.0052)	
RAA11-U7	0-1	04/30/03	ND(0.0053)	
RAA11-U7	8-10	04/30/03 04/30/03	ND(0.0054)	
RAA11-U9	RAA11-U9 0-1		0.0059	

Table 2
Historical Tetrachloroethene (PCE) Concentrations in Soil Samples

Addendum To Baseline Assessment Final Report And Long Term Monitoring Program Proposal Groundwater Management Area 5
General Electric Company - Pittsfield, Massachusetts
(Results are presented in dry weight parts per million, ppm)

Sample ID	Sample Depth (Feet)	Date Collected	PCE Concentration
RAA11-U11	0-1	05/01/03	ND(0.0055)
	1-3	05/01/03	ND(0.0056)
	3-4		ND(0.0056)
	6-8	05/01/03	ND(0.0057)
RAA11-V11.5	RAA11-V11.5 0-1		ND(0.0056)
	1-3	03/15/04	ND(0.0057)
	4-6	03/15/04	ND(0.0056)
	10-12	03/15/04	ND(0.0057) [ND(0.0057)]
RAA11-W5	0-1	04/30/03	ND(0.0053)
RAA11-W7	0-1	04/30/03	ND(0.0053)
	1-3	04/30/03	ND(0.0056)
	4-6	04/30/03	ND(0.0053) [ND(0.0054)]
	10-12	04/30/03	ND(0.0059)
RAA11-W11	0-1	05/02/03	0.0049 J
	1-3	05/02/03	ND(0.0055)
	4-6	05/02/03	ND(0.0051)
	12-14	05/02/03	ND(0.0057) [ND(0.0055)]

#### Notes:

- 1. Samples were collected by ARCADIS BBL, and were submitted to SGS Environmental Services, Inc. for analysis of Tetrachloroethene (PCE).
- 2. EPA Sample collection and analysis performed by United States Environmental Protection Agency (EPA) Subcontractors.
- 3. Samples have been validated as per GE's EPA-approved FSP, General Electric Company, Pittsfield, Massachusetts, ARCADIS BBL.
- NA Not Analyzed
- 5. ND Analyte was not detected. The number in parentheses is the associated detection limit.
- 6. Field duplicate sample results are presented in brackets.

# Data Qualifiers:

J - Indicates that the associated numerical value is an estimated concentration.

Table 3
Historical Tetrachlorethene (PCE) Concentrations in Groundwater Samples

Addendum To Baseline Assessment Final Report And Long Term Monitoring Program Proposal Groundwater Management Area 5
General Electric Company - Pittsfield, Massachusetts
(Results are presented in parts per million, ppm)

Sample ID	Date Collected	PCE Concentration	
BH00041	11/16/06	ND(0.0010)	
GMA5-1	04/12/02	ND(0.0020)	
	10/18/02	ND(0.0020) J	
	04/30/03	ND(0.0020)	
	10/21/03	ND(0.0020)	
	11/15/06	ND(0.0010)	
GMA5-2	04/16/02	0.0025 [0.0024]	
	10/17/02	ND(0.0020)	
	04/29/03	ND(0.0020)	
	10/20/03	ND(0.0020)	
	11/20/06	ND(0.0010)	
GMA5-3	04/12/02	0.012	
	10/17/02	0.0093 J	
	04/30/03	ND(0.0020)	
	10/21/03	ND(0.0020)	
	05/10/04	ND(0.0020)	
	04/12/06	ND(0.0020) [ND(0.0020)]	
	11/21/06	ND(0.0010)	
GMA5-4	05/02/02	ND(0.0020)	
	10/17/02	ND(0.0020)	
	04/30/03	ND(0.0020)	
	10/22/03	ND(0.0020)	
	11/15/06	ND(0.0010)	
GMA5-5	04/16/02	ND(0.0020)	
<b>3</b>	10/17/02	ND(0.0020) J	
	04/30/03	ND(0.0020)	
	10/22/03	ND(0.0020)	
GMA5-6	04/16/02	ND(0.0020)	
	10/17/02	ND(0.0020)	
	04/29/03	ND(0.0020)	
	10/21/03	ND(0.0020)	
	11/17/06	ND(0.0010) [ND(0.0010)]	
GMA5-7	04/16/02	0.018	
<b>5</b> to .	10/17/02	0.0045	
	04/30/03	0.020	
	10/21/03	0.024	
	05/11/04	0.034	
	04/12/06	0.062	
	10/27/06	0.046	
GMA5-8	04/16/02	ND(0.0020)	
Sivil to 0	10/17/02	ND(0.0020)	
	04/29/03	ND(0.0020) [ND(0.0020)]	
	10/22/03	ND(0.0020) [ND(0.0020)]	
	11/28/06	ND(0.0020)	

#### Notes:

- 1. Samples were collected by ARCADIS BBL, and were submitted to SGS Environmental Services, Inc. for analysis of Tetrachloroethene (PCE).
- 2. Samples have been validated as per GE's EPA-approved FSP, General Electric Company, Pittsfield, Massachusetts, ARCADIS BBL.
- 3. ND Analyte was not detected. The number in parentheses is the associated detection limit.
- 4. Field duplicate sample results are presented in brackets.

### Data Qualifiers:

J - Indicates that the associated numerical value is an estimated concentration.

Table 4
Proposed Long Term Groundwater Quality Monitoring Program

# Addendum to Baseline Assessment Final Report and Long Term Monitoring Program Proposa Groundwater Management Area 5 General Electric Company-Pittsfield, Massachusetts

Well Number	Monitoring Woll Usage	Proposed Sampling Schedule & Analyses		Comments	
	Monitoring Well Usage	Sampling Schedule	Proposed Analyses	Comments	
GMA5-4	GW-3 Perimeter (downgradient)	Semi-Annual	Cadmium	Long-term sampling proposed to verify attainment of GW-3 Performance Standards for cadmium.	
GMA5-5	GW-3 Perimeter (downgradient)	Fall 2007	See Note 2	Long-term sampling needs to be assessed after completion of the fall 2007 sampling event.	
GMA5-7	GW-2 Sentinel/GW-3 Perimeter (downgradient)	Semi-Annual	VOC	Long-term sampling proposed to verify attainment of GW-2 Performance Standards for vinyl chloride and PCE.	
GMA5-9	GW-2 Sentinel	Fall 2007	VOC	Well proposed to be installed as part of PCE assessment	
GMA5-10	GW-2 Sentinel	Fall 2007	VOC	Well proposed to be installed as part of PCE assessment	

#### NOTE:

- 1. The wells proposed for long-term groundwater quality sampling under a semi-annual schedule will be sampled for the listed parameters during the spring and fall seasons, generally during the months of April and October. The next scheduled sampling round is proposed to be conducted in fall 2007.
- 2. Well GMA5-5 will be sampled and analyzed for the following parameters during the fall 2007 sampling event: VOCs, SVOCs, PCBs (filtered and unfiltered analyses), PCDD/PCDF, pesticides/herbicides, metals/inorganics (filtered and unfiltered analyses), and physiologically available cyanide (filtered analysis only). Following receipt of the analytical results, GE will evaluate whether additional sampling is warranted at this location. Any additional sampling, if necessary, will be proposed in the Fall 2007 Monitoring Event Evaluation Report.
- 3. Wells GMA5-9 and GMA5-10 will be installed, sampled, and analyzed for VOCs during the fall 2007 sampling event. Following receipt of the analytical results, GE will evaluate whether additional sampling is warranted at this location. Any additional sampling, if necessary, will be proposed in the Fall 2007 Monitoring Event Evaluation Report.



